# P/ ENT COOPERATION TREAT

	From the INTERNATIONAL BUREAU
PCT	То:
NOTIFICATION OF ELECTION  (PCT Rule 61.2)	Assistant Commissioner for Patents United States Patent and Trademark Office Box PCT Washington, D.C.20231 ETATS-UNIS D'AMERIQUE
Date of mailing (day/month/year) 20 October 2000 (20.10.00)	in its capacity as elected Office
International application No. PCT/EP00/01131	Applicant's or agent's file reference RCA 89215
International filing date (day/month/year) 11 February 2000 (11.02.00)	Priority date (day/month/year) 11 February 1999 (11.02.99)
Applicant FARIZON, Arnaud et al	
1. The designated Office is hereby notified of its election made.    X   In the demand filed with the International Preliminary   07   September	Examining Authority on:  2000 (07.09.00)  national Bureau on:
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer  Manu Berrod  Telephone No.: (41-22) 338.83.38
1 Facsumic No., 141-447 /40, 14,00	

### **PCT**

# WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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H01J 29/48

(11) International Publication Number: WO 00/48221

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11 February 2000 (11.02.00)

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99/01628

11 February 1999 (11.02.99) FR

(71) Applicant (for all designated States except US): THOMSON LICENSING S.A. [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne Cedex (FR).

(72) Inventors; and

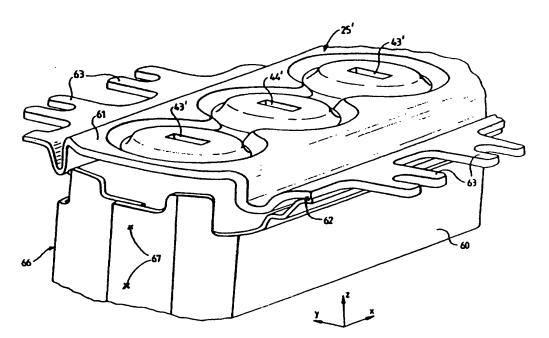
- (75) Inventors/Applicants (for US only): FARIZON, Arnaud [FR/FR]; 73, rue Monge, F-21000 Dijon (FR). ARNAUD, Philippe [FR/FR]; 8, rue du Dauphine, F-21121 Fontaine les Dijon (FR).
- (74) Agents: RUELLAN, Brigitte et al.; Thomson Multimedia S.A., 46, Quai A. Le Gallo, F-92648 Boulogne Cedex (FR).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM). European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, Cl, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### **Published**

With international search report.

(54) Title: ELECTRODE STRUCTURE FOR ELECTRON GUN



(57) Abstract

An electron gun (5) for a cathode-ray tube (1) comprises a dish-shaped control electrode (25'). The electrode is made from three separate components: a substantially planar component (61) drilled with apertures (43, 44) so as to allow the passage of electron beams (6, 7, 8), and two identically shaped components (60, 66) intended to make a skirt serving as a support for the cathode modules (21, 22). The components (61, 60, 66) are welded together. This structure allows the contruction of a control electrode serving as support for cathode modules by virtue of inexpensive components which are simple to manufacture.

### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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		LA	Liucita	SG	Singapore		

Inte - anal Application No
PCT/EP 00/01131

			PCT/EP 00/01131	
A CLASS IPC 7	NFICATION OF SUBJECT MATTER H01J29/48			
	to International Patent Classification (IPC) or to both national class SEARCHED	sification and IPC		
Minimum d	OCUMENTALION SEARCHED (classification system followed by classification sy	instina membala)		
IPC 7	H01J	cabon symbols)		
Documenta	dion searched other than minimum documentation to the extent th	at such documents are include	d in the fields searched	
Electronic o	lata base consulted during the international search (name of data	have and whom product on		
	and any and any and any and any and any any and any	і разе ало, where ргасісці, ве	erch terms used)	
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.	
v				
X	US 2 842 702 A (F.R.TITCOMB ET 8 July 1958 (1958-07-08)	AL.)	1,4	
	column 1, line 72 -column 2, line 4:			
	figure 5			
x	US 2 582 454 A (ERIC POHLE)		1,4	
	15 January 1952 (1952-01-15) claim 5			
A				
^	FR 834 085 A (C.LORENZ AKTIENGE: 10 November 1938 (1938-11-10) * résumé *	1		
	•			
A	EP 0 415 562 A (TEKTRONIX INC) 6 March 1991 (1991-03-06) claim 1		1	
}				
<u> </u>	er documents are listed in the continuation of box C.	X Patent family mem	bers are listed in annex.	
	egories of cited documents:	"T" later document published	d after the international filing date	
COURTOR	nt defining the general state of the art which is not ned to be of particular relevance	or priority date and not	in conflict with the application but principle or theory underlying the	
unig ca		"X" document of particular re	elevance; the claimed invention	
WILLIAM IN	L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  cannot be considered novel or cannot be considered to involve an inventive step when the document is taken all of citation or other special reason (as specified)  Y* document of particular relevance; the claimed invention			
O* document referring to an oral disclosure, use, exhibition or other means  cannot be considered to involve an involve an involve means document is combined with one or more			o involve an inventive step when the with one or more other such docu-	
"P" documen later tha	document published prior to the international filing date but later than the priority date claimed  ments, such combination being obvious to a person skilled in the art.  **a* document member of the same patent family			
Date of the ac	ctual completion of the international search		ternational search report	
22	May 2000			
Name and ma	ailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer		
	NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 spo nl.			
Fax: (+31-70) 340-3016 Van den B			lcke, E	

information on patent family members

Intel Inal Application No PCT/EP 00/01131

Patent documented in search		Publication date	1	Patent family member(s)		Publication date
US 284270	)2 A	08-07-1958	NONE			<del></del>
US 258245	54 A	15-01-1952	NONE			
FR 834085	. A	10-11-1938	BE GB US	426509 494644 2195914	Α	02-04-1940
EP 041556	2 A	06-03-1991	US DE DE JP JP JP	5028838 69023304 69023304 2074322 3171532 7101597	D T C A	02-07-1991 07-12-1995 28-03-1996 25-07-1996 25-07-1991 01-11-1995

G. Moja From the INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY THOMSON multimedia RECEIVED RUELLAN, Brigitte '6 MAI 2001 THOMSON MULTIMEDIA S.A. NOTIFICATION OF TRANSM Patent Department 46 Quai Alphonse Le Gallo THE INTERNATIONAL PRELIMINARY Administration - Paris F-92648 Boulogne Cedex **EXAMINATION REPORT FRANCE** (PCT Rule 71.1) Date of mailing (day/month/year) 14.05.2001 Applicant's or agent's file reference **RCA 89215** IMPORTANT NOTIFICATION International application No. International filing date (day/month/year) Priority date (day/month/year) PCT/EP00/01131 11/02/2000 11/02/1999 **Applicant** THOMSON LICENSING S.A. et al.

- 1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
- 2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
- 3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address fithe IPEA/

Authorized officer

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# **PCT**

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

	_	nt's file reference	FOR FURTHER A		fication of Transmittal of International ary Examination Report (Form PCT/IPEA/416)		
RCA 892				,,			
Internationa			International filing date	(day/month/year)	Priority date (day/month/year)		
PCT/EPO			11/02/2000		11/02/1999		
International H01J29/		nt Classification (IPC) or	national classification and IP	c			
Applicant							
THOMS	ON LI	CENSING S.A. et a	l				
			amination report has beer nt according to Article 36.	prepared by this In	nternational Preliminary Examining Authority		
2. This	REPO	RT consists of a total	of 5 sheets, including thi	s cover sheet.			
. t	oeen ai (see Ri	mended and are the	basis for this report and/o a 607 of the Administrative	r sheets containing	tion, claims and/or drawings which have rectifications made before this Authority the PCT).		
3. This		contains indications r	relating to the following ite	ms:			
11		Priority					
111			of opinion with regard to n	ovelty, inventive ste	ep and industrial applicability		
IV		Lack of unity of inve	ntion				
V	⊠	Reasoned statement citations and explan	t under Article 35(2) with ations suporting such sta	regard to novelty, ir tement	nventive step or industrial applicability;		
VI		Certain documents	cited				
VII		Certain defects in th	e international application	1			
VIII	Ø	Certain observations	s on the international app	ication			
Date of su	bmissio	on of the demand		Date of completion	of this report		
07/09/20	>00 レ	•		14.05.2001			
	y exami	address of the internationing authority: spean Patent Office	ional	Authorized officer			
	D-80	)298 Munich	PEEE annu A	Chevrier, D	· \{ <u>9</u> )		
Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465			xxxx epita u	Talanhana No +40	00 0000 0010		





# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/01131

		s of the report					
1.	the re	With regard to the <b>elements</b> of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)): <b>Description, pages:</b>					
	1-5		as originally filed				
	Clair	ns, No.:					
	1-3		as received on	19/04/2001	with letter of	12/04/2001	
	Drav	vings, sheets:		·			
	1/3-3	3/3	as originally filed				
2.	. With lang	regard to the <b>lan</b> quage in which the	guage, all the elements international application	marked above were a was filed, unless oth	available or fumis erwise indicated	hed to this Authority in the under this item.	
	The	se elements were	available or furnished to	this Authority in the f	following languag	e: , which is:	
		the language of a	translation furnished for	the purposes of the	international sea	rch (under Rule 23.1(b)).	
		the language of p	ublication of the internat	ional application (und	ter Rule 48.3(b)).		
		the language of a 55.2 and/or 55.3)	translation furnished for	r the purposes of inte	mational prelimin	ary examination (under Rule	
3	. With	n regard to any <b>nu</b> mational prelimina	icleotide and/or amino ary examination was cari	acid sequence discloried out on the basis of	osed in the intern of the sequence l	ational application, the isting:	
		contained in the i	international application	in written form.			
			h the international applic		dable form.		
			quently to this Authority in				
		furnished subsec	quently to this Authority is	n computer readable	form.		
	The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.						
		The statement the listing has been	nat the information record furnished.	ded in computer read	able form is ident	ical to the written sequence	
4	4. The	e amendments hav	ve resulted in th cancel	lation of:			
		the description,	pages:				
		the claims,	Nos.:				



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/01131

		the drawings,	sheets:
5.	☒	This report has been considered to go bey	established as if (some of) the amendments had not been made, since they have been nond the disclosure as filed (Rule 70.2(c)):
		(Any replacement sh report.) see separate sheet	eet containing such amendments must be referred to under item 1 and annexed to this
_	٨٨٨	litianal abaan saliana "	<b>5</b>

- Additional observations, if necessary:
- V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- 1. Statement

Novelty (N)

Yes: Claims 1-3

No: Claims

Inventive step (IS) Yes: Claims

No: Claims 1-3

Industrial applicability (IA) Yes: Claims 1-3

No: Claims

2. Citations and explanations see separate sheet

### VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made: see separate sheet





# INTERNATIONAL PRELIMINARY Inter EXAMINATION REPORT - SEPARATE SHEET

International application No. PCT/EP00/01131

### Basis of the report (Item I)

The amendments filed with the letter dated 12.04.2001 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendment concerned is the deletion in claim 1 of the feature that the two components are secured to the planar part (actually the control electrode 25' at points 62, see fig. 5).

### Certain observations on the international application (clarity) (Item VIII)

- 2 It is not clear from claim 1 if "the planar part" on line 5 corresponds to "the planar component" defined on line 11. The applicant is reminded that the same terminology should be used in an independent claim for defining the same features (see Rule 10.2 PCT). In case of doubt, the terminology of the description should be used.
- Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art document US-A-2 842 702 (see point 5.1 below) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- The subject-matter of claim 2 is not clear because "the cathode supports" are not previously defined.

# Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement (Item V)

- 5 The present application does not meet the requirements of Article 33(3) PCT.
- 5.1 Document US-A-2 842 702 (see fig. 5 and corresponding t xt) discloses an el ctron gun of a cathode ray tube. The electron gun comprises a cathod (15) for





### INTERNATIONAL PRELIMINARY **EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/01131

emitting an electron beam, a disc-shaped electrode (10) having a planar part and an aperture (11), a skirt formed with two metal components (6,7) secured to one another and to the planar part, and a cathode support (17) secured to the lateral skirt. The subject-matter of claim 1 differs from the electron gun disclosed in US-A-2 842 702 only in that the ends of the two components overlap at least partially and are secured to one another at points of the overlap.

Overlapping the ends of the two components and securing them at points is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to join the two components forming the lateral skirt. Therefore, the subject-matter of claim 1 does not involve an inventive step in the sense of Rule 65 PCT.

5.2 Dependent claims 2 and 3 disclose additional features known from US-A-2 842 702 so that a combination of these claims with any claim to which they refer, does not meet the requirements of the PCT in respect of inventive step.

### PATENT COOPERATION TREATIY

# PCT

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### INTERNATIONAL PRELIMÍNARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

			<i>c</i> , (2)
Applicant's	or agent's file reference		See Notification of Transmittal of International
RCA 892	15	FOR FURTHER ACTION	Preliminary Examination Report (Form PCT/IPEA/416)
Internationa	I application No.	International filing date (day/month	v/year) Priority date (day/month/year)
PCT/EP0	0/01131	11/02/2000	11/02/1999
	Patent Classification (IPC) or r	national classification and IPC	
H01J29/4			
Applicant			
THOMSO	N LICENSING S.A. et al.		
This ir and is	nternational preliminary examples transmitted to the applicant	mination report has been prepared according to Article 36.	d by this International Preliminary Examining Authority
2. This F	REPORT consists of a total of	of 5 sheets, including this cover s	heet.
_			
⊠ T	his report is also accompani	ed by ANNEXES, i.e. sheets of the	ne description, claims and/or drawings which have containing rectifications made before this Authority
(s	see Rule 70.16 and Section	607 of the Administrative Instructi	ons under the PCT).
These	annexes consist of a total	of 1 sheets.	
		-	
		lating to the following items:	
3. This r	eport contains indications re	elating to the following items:	
1	Basis of the report		
11	☐ Priority	·	
111	☐ Non-establishment of	opinion with regard to novelty, in	ventive step and industrial applicability
IV	☐ Lack of unity of inven	tion	5 - 5 - <del>5 -</del> 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -
V	Reasoned statement citations and explana	under Article 35(2) with regard to tions suporting such statement	novelty, inventive step or industrial applicability;
VI	☐ Certain documents of	•	
VII	☐ Certain defects in the		
VIII		on the international application	•
Date of sub	mission of the demand	Date of	completion of this report
07/09/20	00	14.05.2	2001
07/09/20	00	1,1133	
	mailing address of the internation	nal Authori	zed officer
preliminary	examining authority:		Section 1 Section 1
<u></u>	European Patent Office D-80298 Munich	Chevi	rier. D
<u>                                   </u>	Tel. +49 89 2399 - 0 Tx: 5236		The state of the s
	Fax: +49 89 2399 - 4465	Teleph	one No. +49 89 2399 2819

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/01131

l.	Bas	is fth rep rt					
1.	the and	Nith regard to the elements of the international application (Replacement sheets which have been furnished to he receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)): Description, pages:					
	1-5		as originally filed				
	Clai	ims, No.:					
	1-3		as received on	19/04/2001	with letter of	12/04/2001	
	Dra	wings, sheets:					
	1/3-	3/3	as originally filed				
2.	With	n regard to the language in which the	guage, all the elements ma international application w	arked above were a as filed, unless oth	vailable or furnis erwise indicated	shed to this Authority in the under this item.	
	The	se elements were a	available or furnished to th	nis Authority in the f	ollowing languag	e: , which is:	
		the language of a	translation furnished for th	ne purposes of the i	nternational sear	rch (under Rule 23.1(b)).	
		the language of pu	ublication of the internation	nal application (und	er Rule 48.3(b)).		
		the language of a 55.2 and/or 55.3).		ne purposes of inter	national prelimin	ary examination (under Rule	
3.			cleotide and/or amino ac ry examination was carried				
		contained in the in	itemational application in v	written form.		۰۰۰ چې	
		filed together with	the international application	on in computer read	lable form.		
		furnished subsequ	ently to this Authority in w	ritten form.			
		furnished subsequ	ently to this Authority in c	omputer readable f	orm.		
			it the subsequently furnish pplication as filed has bee		e listing does no	t go beyond the disclosure in	
		The statement tha listing has been fu		l in computer reada	ble form is identi	cal to the written sequence	
4.	The	amendments have	e resulted in the cancellation	on of:		· .	
		the description,	pages:				
		the claims,	Nos.:				

### INTERNATIONAL PRELIMINARY **EXAMINATION REPORT**

International application No. PCT/EP00/01131

☐ the drawings,	sheets:
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5. 

This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

- 6. Additional observations, if necessary:
- V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- 1. Statement

Novelty (N)

Yes:

Claims 1-3

No:

Claims

Inventive step (IS)

Yes: Claims

No:

Claims 1-3

Industrial applicability (IA)

Yes:

Claims 1-3

No:

Claims

2. Citations and explanations see separate sheet

### VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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### Basis of the report (Item I)

The amendments filed with the letter dated 12.04.2001 introduce subject-matter which extends beyond the content of the application as filed, contrary to Article 34(2)(b) PCT. The amendment concerned is the deletion in claim 1 of the feature that the two components are secured to the planar part (actually the control electrode 25' at points 62, see fig. 5).

### Certain observations on the international application (clarity) (Item VIII)

- 2 It is not clear from claim 1 if "the planar part" on line 5 corresponds to "the planar component" defined on line 11. The applicant is reminded that the same terminology should be used in an independent claim for defining the same features (see Rule 10.2 PCT). In case of doubt, the terminology of the description should be used.
- Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art document US-A-2 842 702 (see point 5.1 below) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- The subject-matter of claim 2 is not clear because "the cathode supports" are not previously defined.

# Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement (Item V)

- 5 The present application does not meet the requirements of Article 33(3) PCT.
- 5.1 Document US-A-2 842 702 (see fig. 5 and corresponding text) discloses an electron gun of a cathode ray tube. The electron gun comprises a cathode (15) for

emitting an electron beam, a disc-shaped electrode (10) having a planar part and an aperture (11), a skirt formed with two metal components (6,7) secured to one another and to the planar part, and a cathode support (17) secured to the lateral skirt. The subject-matter of claim 1 differs from the electron gun disclosed in US-A-2 842 702 only in that the ends of the two components overlap at least partially and are secured to one another at points of the overlap.

Overlapping the ends of the two components and securing them at points is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to join the two components forming the lateral skirt. Therefore, the subject-matter of claim 1 does not involve an inventive step in the sense of Rule 65 PCT.

5.2 Dependent claims 2 and 3 disclose additional features known from US-A-2 842 702 so that a combination of these claims with any claim to which they refer, does not meet the requirements of the PCT in respect of inventive step.

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### **CLAIMS**

- 1 An electron gun comprising at least one cathode (50) for emitting an electron beam, a dish-shaped control electrode G1 comprising a substantially planar part (61) provided with at least one aperture (43',44') for the passage of the electron beam emanating from the cathode and a skirt at least partially surrounding the cathode, and means for supporting the cathode so as to keep the latter at a specified distance from the electrode G1, wherein the control electrode G1 (25') comprises at least three separate metal components:
- a substantially planar component (61) drilled with apertures (43',44') which are intended to face each cathode (21,22),
- at least two metal components (60,66) forming the lateral skirt at least partially surrounding the cathode, the ends of the two components (60,66) overlap at least partially and are secured to one another at points (67) of the overlap.
- 2 The electron gun according to claim 1 or 2, wherein the cathode supports are secured to the lateral skirt (60,66).
- 3 A cathode-ray tube comprising an electron gun in accordance with any one of the preceding claims.

AMENDED SHEET

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#### **CLAIMS**

- 1 An electron gun comprising at least one cathode (50) for emitting an electron beam, a dish-shaped control electrode G1 comprising a substantially planar part (61) provided with at least one aperture (43',44') for the passage of the electron beam emanating from the cathode and a skirt at least partially surrounding the cathode, and means for supporting the cathode so as to keep the latter at a specified distance from the electrode G1, wherein the control electrode G1 (25') comprises at least three separate metal components:
- a substantially planar component (61) drilled with apertures (43',44') which are intended to face each cathode (21,22),
- at least two metal components (60,66) forming the lateral skirt at least partially surrounding the cathode, the ends of the two components (60,66) overlap at least partially and are secured to one another at points (67) of the overlap.
- 2 The electron gun according to claim 1 or 2, wherein the cathode supports are secured to the lateral skirt (60,66).
- 3 A cathode-ray tube comprising an electron gun in accordance with any one of the preceding claims.





# **PCT**

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  RCA 89215	FOR FURTHER see Notification of (Form PCT/ISA/2	of Transmittal of International Search Report 120) as well as, where applicable, item 5 below.			
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)			
PCT/EP 00/01131	11/02/2000	11/02/1999			
Applicant THOMSON LICENSING S.A. et	al.				
according to Article 18. A copy is being tra		nority and is transmitted to the applicant			
	of a total of2 sheets. a copy of each prior art document cited in this	report.			
Basis of the report     a. With regard to the language, the insurance is an anguage in which it was filed, unless that the second in the	international search was carried out on the bases otherwise indicated under this item.	sis of the international application in the			
the international search was Authority (Rule 23.1(b)).	as carried out on the basis of a translation of t	he international application furnished to this			
was carried out on the basis of the	<b>d/or amino acid sequence</b> disclosed in the in a sequence listing : nal application in written form.	temational application, the international search			
	mational application in computer readable form	n.			
	this Authority in written form.				
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	sequently furnished written sequence listing d	oes not go beyond the disclosure in the			
the statement that the info furnished	mation recorded in computer readable form is	sidentical to the written sequence listing has been			
	nd unsearchable (See Box I).				
3. Unity of Invention is lack	dng (see Box II).				
4. With regard to the title,					
the text is approved as sul	omitted by the applicant.				
the text has been established by this Authority to read as follows:					
5. With regard to the abstract,					
X the text is approved as sub	omitted by the applicant.				
th text has been establish	d, according to Rule 38.2(b), by this Authorit date of mailing of this international search rep	y as it appears in Box III. The applicant may, ort, submit comments to this Auth rity.			
6. The figure of the drawings to be public		6			
as suggested by the applic	eant.	Non of the figures.			
because the applicant faile	•				
because this figure better characterizes the invention.					



Int mal Application No PC: 2P 00/01131

A. CLA	SSIFICATION OF SUBJECT MATTER	<del></del> -	101.21 00/01131	
IPC	7 H01J29/48	_		
Accordin	ng to International Patent Classification (IPC) or to both nation	nal classification and IPC		
B. FIEL	DS SEARCHED			
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C. DOCUI	MENTS CONSIDERED TO BE RELEVANT			
Category <sup>c</sup>		of the relevant nassance		
			Relevant to	daim No.
X	US 2 842 702 A (F.R. TITCOMB	ET AL.)	1.4	
	1 0 JULY 1958 (1958-07-08)		1,4	
	column 1, line 72 -column 2, figure 5	line 4;	]	
X	US 2 582 454 A (ERIC POHLE)		1 1 4	
	15 January 1952 (1952-01-15)		1,4	
	Claim 5			
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	1 10 MOAGNIDEL 1338 (1338-11-10)	)	1	
	* résumé *			
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	6 March 1991 (1991-03-06)	• )	1	
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	er documents are listed in the continuation of box C.	X Patent family member	ers are listed in annex.	
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	European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk	Authorized officer		
	Tel. (+31-70) 340-2040. Tx. 31 651 epo pl	W		
	Fax: (+31-70) 340-3016	Van den Bulc	ke, E	ŀ

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### 6 CLAIMS

- 1. An electron gun comprising at least one cathode for emitting an electron beam, a dish-shaped control electrode G1 comprising a substantially planar part provided with at least one aperture for the passage of the electron beam emanating from the cathode and a skirt at least partially surrounding the cathode, and means for supporting the cathode so as to keep the latter at a specified distance from the electrode G1, wherein the control electrode G1 (25') comprises at least three separate metal components:
- a substantially planar component (61) drilled with apertures (43', 44') which are intended to face each cathode (21, 22),
  - at least two metal components (60, 66) forming the lateral skirt at least partially surrounding the cathode, the two components being secured to one another as well as to the planar part.
- The electron gun according to claim 1, wherein the ends of the two components (60, 66) forming the lateral skirt overlap at least partially and are secured at points (67) on the overlap.
- 3. The electron gun according to claim 1 or 2, wherein the cathode 20 supports are secured to the lateral skirt (60, 66).
  - 4. A cathode-ray tube comprising an electron gun in accordance with any one of the preceding claims.



# INTERNATIONAL SEARCH REPORT

pal Application No PCT/EP 00/01131

	FICATION OF SUBJECT MATTER H01J29/48		
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C. DOCUM	ENT'S CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the	relevant passages	Relevant to claim No.
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	8 July 1958 (1958-07-08)		
	column 1, line 72 -column 2, li figure 5	ne 4;	
х	US 2 582 454 A (ERIC POHLE)		1,4
	15 January 1952 (1952-01-15) claim 5		
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^	10 November 1938 (1938-11-10) * résumé *	;	-
A	EP 0 415 562 A (TEKTRONIX INC)		1
	6 March 1991 (1991-03-06)		_
	claim 1		
Furt	her documents are listed in the continuation of box C.	Patent family members are listed	in annex.
* Special ca	alegories of cited documents:	"T" later document published after the link or priority date and not in conflict with	
	ent defining the general state of the art which is not sered to be of particular relevance	clied to understand the principle or the	
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	NL - 2290 HV Rijswijk Tel. (+91-70) 940-2040, Tx. 91 651 epo ni,	Van den Bulcke, E	
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### INSTITUT NATIONAL de la

### RAPPORT DE RECHERCHE **PRELIMINAIRE**

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**EPO FORM** 

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### ANNEXE AU RAPPORT DE RECHERCHE PRELIMINAIRE RELATIF A LA DEMANDE DE BREVET FRANÇAIS NO.

FA 568151 FR 9901628

La présente annexe indique les membres de la famille de brevets relatifs aux documents brevets cites dans le rapport de

La presente armèxe indique les membres de la lamine de brevets relatifs aux documents brevets cites dans le rapport de recherche préliminaire visé ci-dessus.

Les dits membres sont contenus au fichier informatique de l'Office européen des brevets à la date du Les renseignements fournis sont donnés à titre indicatif et n'engagent pas la responsabilité de l'Office européen des brevets.

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